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SCHOOL AND SOCIETY

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SCHOOL AND SOCIETY

Volume IX SATURDAY, JUNE 7, 1919 Number 232

A MODERN MISSION OF THE SMALL COLLEGE

THE outlook on education is not quite the same as it was before those marvelous experiences during the period of the war. Such gigantic substances of knowledge have been added to the accumulated masses of the ages as to change the balances of realities dealt with by the schools. Even the eternal principles have been utilized by the unexpected and out-of-the-way manipulations, and concrete structures of wisdom of the past have been sorely scattered.

A spirit of expectancy, or an uncertainty arising from the chaos of thought and conditions is the best that can be assumed of the state of mind of the educators. The students are in as great a dilemma. The ideals of the practical experience they have gained have been so cleverly held before them that they question the values of sobering routine methods for acquiring knowledge or developing abilities. An illustration is near-by in the demobilization of the Students Army Training Corps. Men had received very little of college training, even when they kept closely to the allied subjects at first recommended by the War Department as a test of intellectual caliber required to make a good officer. If they took only those subjects leading directly to a branch of the service, they fared worse from the point of view of training in college. Whereas, they were wisely trained for the army, as was the intention, they had not the usual touch of the academic atmosphere to give them the serious inspiration for courses of a more extensive nature. Even with the contact with professors, who related most gloomily the advantages of the good old days, or with the men of wisdom who saw farther and tried to show the student the glories of permanent usefulness through extended courses, these students, as ships that pass in the night, caught a vision of something better. They decided to think over their future with academic training added to their equipment, but when the first announcement was made that demobilization was an assured reality, they simply went up in the air. One man said he believed not more than four men in a hundred would remain in college. In that period they invented a new meaning for S. A. T. C.—"stick around till Christmas." After that period had lasted for a few days, the uncertainty set in. One man who had enough money to carry him through the year said he was going after the high wages while the picking was good, and see what happened next; but even he was chaotic in his thinking.

A man of this group started back toward the farm with a whoop, but soon was sidetracked by a wise friend who advised him to stay where he was until he could get his bearings with better judgment. These men were divided between going directly to vocational tasks with immediate offerings, and the college as a theoretical program rather distantly removed from the point in issue. The new aims in the army and the new method of getting at tasks at once to win a war that would not wait, had mixed up with the ideals of permanence, yet the arguments were good enough still in favor of college aims to cause them to hesitate.

That which was true of the soldier in college when the order quickly came upon him, was also somewhat characteristic of whole groups of educators. A morning paper stated that a prominent educator had said the schools were to eliminate the cultural notion of education from their classrooms forever, and, in the presence of such lessons as the war offered, take up only the pay ticket conception. A minority opinion was just as decided that morale had been the winning force in the war and the cultural was what made morale, and therefore, the old classical type of education should be called back as the dead from the tomb. A great friend of the classics told me with tears near the surface that for the first time in his life he was confused in his purposes about the duty of the schools to preserve educational ideals through the study of such subjects. On the contrary, a high-school teacher claimed he had seen the folly of letting students of high-school age and judgment select, with little guidance, courses with a view to vocations they imagined they wished to take up later. He based his opinion on what he considered evidence of the failure of his boys, who pursued only vocational subjects, to make good in the army. He felt the high-school authorities had listened too intently to the rumbling of the life of the people near them, and shaped their curriculum accordingly.

Back further than the signing of the armistice these signs can be read by all men interested. Some of the small colleges were clinging to ideals of education held safe from the foundation of colleges in this continent, and some were fast changing their courses to meet the issues of the times. None boldly came forward to eschew the cultural subjects, except as the demands of the hour swept them back from their original positions. The vocational ideals appeared to be encroaching on sacred ground without warrant, and uncertainty was beginning to be a mighty verity back there.

From such data the conclusion might be reached that the war merely brought on the acute situation of uncertainty of the course to be pursued by the small college, whereas, in time, under the normal trend of educational events, the same condition would have come upon us. If this be true the issue is one to be settled with a long look to the future. Undoubtedly a new world has been discovered. Long before the war we may have been traveling on unfamiliar seas toward its shores, just as Columbus traversed unknown waters before he reached the new land of the west. After the first needs were attended to, wise men back there decided to found colleges by the old methods and materials to be fitted to meet the issues of the times and the new world in which they found themselves. The old materials are at hand and the small colleges are surely on the shores of a new world with new needs appearing on all sides. Uncertainty may be the condition now, but it need not be so for a long time, or much will be lost that the educators can just as well conserve.

The problem is one of the standardization of the type of the small college. Without that its progress will be slow and unsteady. Its advantages in the past have been heralded widely by those who believed in it with their hearts on fire. There was not a wide difference in the character of the colleges, for, though some might have been smaller and possessors of less equipment, the arguments for their existence were virtually the same as for the success of more prosperous colleges. In equipment, none could hope to compete with state schools or with magnificently endowed large universities, and if their arguments were to be based on such values they were outclassed in the start-off. It had to be recognized that each

of the types had a field of its own, the small college and the large university, or the reason for existence for the small college was not apparent. If the small college was pitted against the small college in competition, or against the large university to compete by the same policies, the death of the small college was the only hope. It is to be regretted that something of this attitude had been springing up between the small colleges. Even then the adherents of the large universities and the small colleges were practically together. Each was generously recognizing the eminent importance of the existence of the other, but many believers in the colleges which were to meet the needs of the times with up-to-date courses as soon as the need appeared, were already before the war sounding out the praises of one small college against another, instead of keeping together in spirit as the small college and the university were so nicely beginning to do. The older standard was decried by one advocate and the newer standard was condemned by an opposing type of advocate. The result was the elimination of some of the small colleges. I am not saying that some of them should not have started in the first place, but rather that the policy was not the right one by which to shove them off the map, since it also attacked the right of all small colleges to exist. So, whatever the subjects included in the curriculum, clear policies of progress ought to be standardized for the new world we are just entering.

1. The ideals of the old cultural courses should be maintained in some form for the safety of society and industries, and for the happiness of the world's workers. This is a point of view for the small college, more than a policy for its curriculum. Heretofore, stoutly it has been maintained that definitely required subjects throughout the entire course alone could insure the rightful success of this conception of education. More and more in some colleges, this sustained course has been recognized as a memorial of what ought to be if the traditions were to be carried out. That they were not being carried out in most instances goes without saying, and therefore the course was a point of view for the college, more or less, giving bias to the other courses. With the adherents of the classics at last proclaiming that something of the cultural could be extracted from other subjects, the case was all but won for classical subjects to be utilized more as a memorial than as essential to acquire a cultural mind. Electives, even in the freshman year in most small colleges, naturally made the situation worse every year for the pronounced classical subjects. Even the scientists in these colleges agreed that a study of the classical subjects gave a solid background and ability to the students who were in their courses, but without substantial avail. The newer subjects had more of the personal touch, because of the laboratory character of them, and thereby, became more interesting. The work and cultural values of the classics could not be pointed out by the older methods of teaching, and failed to appeal on other grounds, dimly seen by the students. Since the cultural had to be introduced into each student's ideals of education, nothing was left for the teachers of other than classical subjects but to inject it into their teaching. The English courses became the easiest avenue of approach to the mind of the students, but even those teachers who taught subjects farthest removed from the original ideals of the cultural, incorporated a bit of it in their teaching. They seemed to sense the incongruity of claiming to run a cultural college without remotely teaching the majority of the students with even the first

elements of the cultural subjects. At best, most of the small colleges which boasted of classical courses were failing to touch even the borderland of a strictly classical education. The real thing had to be done without false pretenses by the actual practise of putting in the cultural by what might be called the point of view. In all frankness the new education must come out in the public vision and state its position, for the cultural must be the first working law of the small college, even as it has been in the past.

Three methods are possible to establish an adequate curriculum to serve this purpose. The old plan can be maintained in the face of defections from the classics themselves, merely as a memorial, a reminder to professors that the ideals of the college are to produce cultural results, though they, perforce, must be injected through many subjects. This will mean that an attempt to stem the oncoming tide against the classics shall be made regardless of standard results.

The scheme of substitutes, as a second plan, can be frankly devised for an entire course. The solid subjects by which the work-mind is best developed would be decidedly wanting in such a course, but it might have the advantage of transferring its electives into other courses least liable to produce the cultural effects. This scheme would let down the bars on the language side and cut out much of the good to be gained in attacking subjects without equipment, and work for the work's sake. Such a plan would repudiate the old ideals.

The third plan must be a cross between two extremes. Because the policy of electives has rightly come to stay in some form, the student ought to be protected against its disadvantages, while at once profiting from the values it offers. Because the broadening subjects have elements of excellence for the small college nowhere else to be acquired, they should be taken at that period in the course best suited to the end in view. That means only definite periods of the whole college course of each student devoted to such subjects as a portion of his program during that time. The rest of the college course would be free for whatever major is desired. This would standardize the freshman year on the elastic principle of the need of the student at entrance. The college would assume the ultimate burden of responsibility of advice in that first year. The broadening and cultural results would enable the students to choose more wisely from the subjects freely offered for the years to follow.

2. The small college must meet the practical issues of the age by including in its curriculum subjects calculated to produce practical workers. The broadening subjects may be its main function in teaching, but the technical subjects ought to be so arranged in texts and in teaching that the student may be educated in the technical. The usual technical subjects now thoroughly pursued in small colleges, such as pre-medical courses, need not be limited by this plan. No pretense should be made that general courses would be exhaustive, but the assumption would be rather that they were for the purpose of preparing the student to meet the varied needs by knowing something of many principles and policies, and to pursue the subject further in a university or in other departments in that college. A few general courses with practical intent merely touching on the fundamentals, with a hurried survey of knowledge would prepare the student for further study in a more technical school, while giving him the surface knowledge of the subjects if he did not care to take up those lines in vocation. This whole topic would require the cooperation of the institutions.

both colleges and universities, that proper standards of scholarship might be maintained and credits accepted in all schools for subjects so pursued. But this sort of work done in high grade colleges can be standardized without difficulty. In such courses the university would specialize in technical subjects, whereas the small college would make generalization its specialty on the technical side. The university would major while the college would minor in the technical.

The criticism has been offered in many quarters where the knowledge of the situation was not complete that the small colleges lacked most in the practical results. Their graduates could not reach up to the requirements of jobs at once on graduation. That they were not expected to be prepared for such issue was not considered, nor yet their fitness in a larger program later in their careers. Therefore, greater generalization will make them fit for immediate tasks while they are more largely finding their places in technical life, or even after they have pursued technical courses in a university. They need to be fitted to their specialty.

3. The particular specialty by scientific methods for the small college should be developed in work with the individual. Something the college has long done well is this meeting with the student close at hand and helping him to go on with confidence. A few lame-duck students have been sent to small colleges to be trained up to take extended courses elsewhere, but time and again the colleges have been half-way condemned for their poor preparation of such students, when they should have been commended for making little out of nothing. The special attention given to each student in the college made it possible to push over the poor grade man.

This process in education was originally carried out by men who sat on the other end of figurative logs and by their remarkable personality, and by their generous interest, made themselves the best educational forces in the world. Very rapidly that method was being supplanted by the mass methods, by the wholesale plans of reaching minds in groups, with the results to be expected. The best talents were passed by until too late to be properly cultivated. Small weaknesses were allowed to handicap the most brilliant workers. The individual method was never to be brought back in its pristine and primitive usefulness, because the world had grown too complex to employ it successfully. Even in the small colleges professors were confessing that they did not know intimately their students as once they knew and advised them. The new methods for teaching required extra hours to be spent in study or in planning new stints of interest. The laboratory expectations meant more energy and new ideas for invention. The small college was in danger of losing one of its primary functions.

The future must not find the small college doing less of this sort of work, but more such work by more scientific methods. Since the old contact is not at all possible by the old style, and since the mass methods are required in small colleges as well as large universities, something must be planned to meet the situation entirely in harmony with changed conditions. A scientific system must be devised by which the method for dealing with the individual becomes a part of the academic routine. If that work is to be attempted by professors already too crowded to do sufficient research work in their subjects, either they will break down under the strain of trying to do the work of several men, or they will not accomplish well this task. In either case the task can scarcely be done, except with haphazard results. A system must be evolved by which

the whole college catalogues each student by the most approved means for judging his capacities. Each professor must be made to observe the students at work and record the estimates on charts of well arranged capacities. These results must be gathered together with all the other data, and considered in a definite department for the purpose where experts can suggest the remedies for the conditions. These remedies could be applied by another expert whose business would be nothing else but contact with the individual. If such a method were to leave out of its aims sympathetic interest, the whole scientific program would be worse than a failure. Rather, by this orderly system, every student would gain a reasonable growth in heart interest from the professors, and professors would make their observations with greater intelligence, so that less scattering counsel would be offered. Personal contact itself would be changed to conform to accepted academic methods; members of a faculty would be made to sit as a board with the interests of a single student as the prominent function of that side of its purpose.

The foregoing principles in concrete form, standardized for broadening aims in the freshman year, and also, by a broad allowance of electives for the three years to follow, would be elastic and also arbitrary enough to conserve and develop students by the best standards.

Few educators are satisfied with the conditions among the applicants for college. Admittedly mere records in high schools are not a sufficient test of mentality. That this means for judgment must continue to be employed after the entrance tests for mentality are completed, is scarcely questioned, but by tests or by the records of previous work, the situation will not be entirely satisfactory. This will be true, partly because the idea of having colleges at all is not simply that the college may have its classes filled with the best brains, but also that it may have a part in finding out where the best brains are to be discovered among those who enter. Students in high school took subjects they liked, and little else. They entered the freshman classes more typical of lop-sided geniuses than characteristic of the healthy and broadly developed minds capable of handling specialties. Of all things they needed, they required none more than that they should have been compelled to take studies they did not like, not because they did not like them, but to find out what they might be fitted for, and what they might like if they had a fair chance. The fact that students had no more than the law for entrance required, would be evidence that in the broadening processes of a standardized freshman year they should find themselves. Freshmen could be made over, whether to their tastes or not to their liking. Later they would thank their lucky stars that they were taught to work by the right laws, and that they were given subjects to help them find themselves that they never would have touched if let alone. A system of electives for the three years to follow could be developed, elastic and capable of serving vocational or cultural ends. The student, broadened out in the freshman year, somewhat standardized in his subjects and his point of view, would be better fitted to make wise choices. During these years, the vocational guide to be instituted in every small college, could watch the capacities as they developed and make opportune suggestions regarding the next subjects to be studied. Talents could be nurtured as the skillful husbandman would give careful and tender attention to growing vines. A science for the individual would be developed to its safest efficiency where genuine friendliness is the rule of the educators.

The small college would come into its own in fitting leaders with recognized and trained capacities to meet the varied issues of the new age. The great causes in career and specialized vocations would gain from such a mission fulfilled. Great universities could carry the program further into detailed knowledge, and life itself would be richer for the teamwork of college and university in scientific aims.

ELMER ALLEN BESS
PRESIDENT OF MACALESTER COLLEGE

THE TEACHING OF NATURAL SCIENCE IN THE PRIMARY AND SECONDARY SCHOOLS OF NORWAY

THE natural sciences, botany, geology, zoology, chemistry and physics, hold a much more prominent place in the primary and secondary schools of Norway, than in the grammar schools and high schools of the United States. As a course of study, biology is begun as nature study and gradually emerges into its definite branches: Botany, zoology and hygiene. Each of these is enlarged in scope from year to year. Nature study (Naturlære) is begun in the lower grades and is continued each year throughout the three grand divisions of the Norwegian system, the primary school, middle school and gymnasium, that is over a period of at least eleven years. As the primary schools are planned on the assumption that the average student will not pursue any higher education, these courses are given with a certain completeness there, the idea being to give the children a "general" foundation in the catholic branches of learning. Middle school, therefore, repeats in the first two years part of what is given in the last three years of the primary school, with only a slight addition of subject matter. To avoid this overlapping, the national department of education (Kirke og Undervisingsdepartementet) is now working for better articulation between primary and middle school. At the present time, children who are to attend middle school, leave the primary school after the fourth year.

The principal point that the writer wishes to make, is to call attention to the fact that *all the students*, in the primary school, in middle school and in gymnasium, study natural science. In the primary schools, biology is taught two years, physics three semesters and chemistry one semester. In middle school, biology is taught throughout the four-year course; physics during the last two years. In the gymnasium, likewise, biology is a subject common for all, though those who are pursuing the linguistic and philosophical courses have fewer hours per week than the science students. Chemistry is a subject common for all, and is studied in the first year; physics is required for the science students only. To make this presentation concise it may be best to discuss the material used for study.

In the primary schools, biology is introduced by a short synopsis of the human body, presented by oral instruction and through illustrative materials: the skeleton, muscles, digestive organs, skin, circulation and respiratory system. This is followed by a study of the principal mammals, beginning with the most familiar ones and including little by little the stranger types. All in all about 58 mammalian types are studied.

Any normal child is interested in pictures and stories regarding an animal such as the monkey. Forms resembling the cow or the sheep, such as the hart, goat, reindeer and elk, arouse the interest as well as those that resemble the horse. Likewise the pig, with related forms such as the wild swine and hippopotamus; rhinoceros; elephant and mammoth, helps to complete the connected link of interesting topics. The whale, which is of immense economic importance to Norway, is another prominent topic. In short, all the principal mammalian forms, including some rodents, are introduced to the children during the fourth year of study. About thirty-two kinds of birds are likewise presented during this year. These forms are studied from an economic point of view; the common names are learned and the pupils are guided in learning to observe the difference in external

features of the various types studied. The entire program is planned for sixteen weeks, two hours weekly. Dr. Hans Reusch's "Naturkunskap" is used as a text.

Botany, introduced in the fifth year, begins with dicotyledons and includes about twenty domestic forms. Then follow about nine monocotyledons which like the former are studied mostly from a systematic and an economic view point. This is followed by a brief introduction to the flowerless plants: ferns, mosses, algæ and fungi. Now follows a survey of foreign useful plants such as coffee, tea, cotton, sugar cane, rice, maize, orange, palms and spices. Finally comes the topic: "The Life of Plants." This is studied from the following aspects: structure, seed purpose of the leaves, use of the air to plants, use of the soil to plants, purpose of the roots, parts of plant non chlorophyllic, plants and animals, reproduction, method of reproduction, fruits, movements of plants, and the life of plants. This part which deals with plant physiology is repeated in the seventh year in connection with chemistry.

Botany is followed by twenty hours of zoology during the same year. The topics for study are representative forms of those types not studied during the previous year. Again, the most familiar forms are studied first: reptilians, amphibians, fishes and finally invertebrates. The actual types represented in this category are: the adder, lizard, crocodile and turtle; the frog and the toad; the mackerel, pike, salmon, trout, cod, herring, haddock, flounder, eel and shark; the cabbage butterfly, silkworm and the moth; the bee, bumble bee, wasp and ant; the fly, mosquito and gnat; the grasshopper; the beetle; the spider; the lobster and the crab; the earthworm and the leach; the tapeworm; the trichina; the snail and the mussel; the starfish and sea urchin; corals and jelly-fishes; sponges, and finally some infusoria. The course goes through the entire year; forty hours are given to botany and twenty hours to zoology.

The second semester in the seventh year is given to the study of hygiene, two hours weekly. The following table may show at a glance the number of hours in the various courses of biological sciences given in the primary schools

PRIMARY SCHOOL

(Old Schedule)

Year	Subject	Number of Hours	Time in the Year	Total Number Hours
IV	Hygiene	4	Fall	
	Mammals	20	Fall and winter	
	Birds	10	Spring	34
V	Plant study	40	1st semester	
	Animal study	20	2d semester	60
VII	Hygiene, plant and animal physiology	30	2d semester	30
Grand total, hours				124

(New Schedule)

IV	Hygiene	10	Fall	
	Mammals and birds	60	Fall and winter	
	Plant study	10	Spring	80
V	Plant study	20	Fall	
	Animal study (invertebrates)	30	Winter	
	Plant study	20	Spring	70
VI	Physiology and hygiene	40 (boys) 50 (girls)	Fall and winter	40-50
VII	Review of plant and animal study	30	Spring	30
Grand total, hours				220-230

It is thus seen that the study of biology in the primary schools of Norway, has a far more prominent place than in our graded schools. Naturally, owing to the developmental stage of the child, only fundamentals of these sciences are presented; but as the introduction of the simpler branches of arithmetic has its place here, so also the fundamentals of other sciences. A great deal is accomplished. It is almost a crime to postpone the essentials of natural science till the child has reached the age of fifteen or thereabout; to make natural science elective in the preparatory schools is almost as bad. Right here in the primary school age the primary parts of the most vital economic problems are presented. Even if

the child never sees the inside of a higher institution of learning, his alertness of mind to the economic value of animals and plants is equal to that of the American high school student who has studied botany, zoology and physiology for three semesters, four times per week. The new program of the Norwegian primary school provides for an additional 100 hours in biology. What about the larger number of our students who never study natural science? Why are they so totally neglected in this respect as if social and economic problems which have direct bearing upon the natural sciences are of no interest to them?

Physics is introduced in the fifth year, sixteen hours during the second semester. The topics considered are: solids, liquids, gases, gravitation and the lever. A text is used and instruction is accompanied by experiments, drawings and models.

During the sixth year, liquids are studied eight hours; properties of air eight hours; heat, twelve hours; sound, eight hours; light, ten hours, magnetism, five hours; electricity, fifteen hours; equilibrium and motion, ten hours. The text used is Holmsen and Ström's "Naturlære."

During the last, or seventh year, of primary school, physics is continued for sixteen hours (one half semester) and an introduction to chemistry completes the study of natural science during that semester. As in the case of biology, chemistry and physics are presented in a way that make them easily comprehended by the young students, which is accomplished by making each phase of these sciences applicable to problems within the experience of the child. It must be readily seen that the child whose experience has been enriched by the knowledge of even the simplest factors which underlie life phenomena, as economic botany, zoology, hygiene, chemistry and physics, is infinitely better prepared for life in modern society than is he who has not this experience. This is true whether he continues his studies or not.

Another branch of natural science studied in the primary school, though more briefly, is physiography. This is studied under the following headings: metals and ores; stones, rocks and soils, and formation of rock and soil.

The physical sciences studied in the primary school may be summarized in a table which is appended:

PRIMARY SCHOOL

(*Old Schedule*)

Year	Subject	Number of Hours	Time in the Year	Total Number Hours
V	Physics	16	Winter	16
VI	Physics	76	Fall and winter	
	Physical geography	10	Spring	86
VII	Physics	16	Fall	
	Chemistry	16	Winter	32
Grand total, hrs.				134

(*New Schedule*)

V	Physics	10	Winter	10
VI	Chemistry	10	Fall	
	Physics	20 (girls)		
		30 (boys)	Winter	
	Physio-geography	10	Spring	40–50
VII	Physics	50 (girls)		
		75 (boys)	Fall and winter	50–75
Grand total, hrs.				100 (girls) 135 (boys)

The next step in the educational system of Norway is the middle school, the connecting link betwen the primary school and the gymnasium. Geography is studied throughout the four years; physiography is studied in connection with geography, especially climatology and meteorology. The text used is Arstal-Skattum's "Geography." Botany and zoology are studied more intensively here than in the primary school. A thorough drill in classification of typical plants of Norway is given. About twenty-one forms are used which are divided into nine families. First, the student is drilled in comparative study in each type, then in classification. This is done in such a way that only the simplest plants are given during the first two years. During the last year, these are reviewed and new ones added. At the end of the middle school, the

child, now at the age of 14–15 years, is able to take any given plant and classify it, and describe its life history. The writer had the opportunity to visit a school for girls (Nissens Pigeskole) in Christiania, and to be present in classes for students aged 8–10, and 13–14. These classes represented the beginning classes and graduating classes, respectively. In either class, whatever child was called on proved to possess absolute control of the scientific language necessary to classify and to describe a plant. The teacher called on a student who came to the front, and was given a plant, in one case a strawberry plant. First the student gave the common name of the plant, and named its family. Then she described its mode of growth, its characteristics, including roots, stalks, leaves, flower and fruit. Next, by the help of a chart, she pointed out the internal structure of the plant and described its method of fertilization and the development of seeds. Particularly interesting was the beautiful accuracy of language. Each member of the class had a "Flora," by the help of which she determined the scientific name of any plant assigned. Work in taxonomy is done in the fall and the spring of the year, in fact, the study of botany is done during the time of the year when each student may have the chance to study the habitat of the plants as well. It was really inspiring to see with what rapidity every child determined the class of the plant, and then traced it down to its species. The "Flora" used was: O. A. Hofstad's "Flora for Skoler" or "Norsk Flora"; the regular text, H. L. Sörensen's "Botanik for Middelskolen." This book is beautifully illustrated and contains 16 colored plates and 195 text figures. The price of this book is $0.49.

At the end of middle school, which equals about the middle of the junior year of our high school, *all* the students are thoroughly drilled in this routine work of elementary study; but the end of biology is not here. An equal amount of zoology is given every student before he leaves middle school. The vertebrates of Norway, and particularly those of economic value, are studied throughout the first year; and invertebrates during the second year. A review of botany and zoology is made during the third year. The text used is H. L. Sörensen's "Zoologi for Middelskolen." The human body and hygiene are studied during the second semester three hours per week. The text used is: Knudsen's and Falk's "The Human Body," Part I. As physics and chemistry have been studied during the three previous semesters, the best results are expected. In addition to principles in human anatomy, physiology and the regular course in hygiene, special instruction is given in maintenance, nutriment, hygiene in a broader sense, ventilation, heating of rooms, bacteriology, cleanliness, dress, first aid, sport, dance, endurance, bathing, care of sick, etc.

In general zoology, the student gets a fair view of the animal kingdom. He studies several representative forms, with particular emphasis on those of the greatest economic importance, from the following phyla: Vertebrata, Arthropoda, Annulata, Molluska, Nematoda, Platyhelminthes, Echinodermata, Coelenterata and Protozoa, beginning as in the primary school with the most familiar forms and ending with the less familiar forms.

Physics is studied in the third and fourth year, middle school. The text used is either Holtsmark's "Naturlære for Middelsholen" or Henrichsen's "Physics." Chemistry goes hand in hand with physics during the second half of the second semester of the third year. In the fourth year the "Nature of the Human Body and its Hygiene" are studied with those parts of chemistry and physics that have direct bearing.

In all the branches of natural science demonstrative materials are always used so that the subject at hand may be taught the most effectively. Little dissection is done in zoology; but the practical features of the various phases of each part of the study is always brought out. This obtains the best response from the students.

Unlike the American student pursuing an average course, *all* the students in the primary schools and middle schools of Norway, get a

fair introduction to all the natural sciences before they enter the next higher school, the gymnasium. The students who will pursue the scientific course have a firm foundation on which to build; those following the historic-linguistic course have a broad cultural knowledge of these fundamental sciences, which will help them to gain knowledge in new fields. In fact, the basic elements of the natural sciences have become a part and parcel of the student as have those of mathematics. The Norwegian educators recognize that an educated person must not be totally ignorant of such fundamentals as here referred to; that it is just as necessary to know the elements of botany and zoology, chemistry and physics as to know the fundamentals of physiology and arithmetic; that the time for the introduction and the teaching of these sciences is when the person is young. The amount of natural science given in the middle school may be represented in the following table.

MIDDLE SCHOOL

Year	Subject	Number of Hours per Week	Total Number of Hours
I	Botany	3	
	Zoology	3	96
II	Botany	2	
	Zoology	2	64
III	Review of botany and zoology	2	
	Physics	2	64
IV	Physics	3	
	Physiology and hygiene and chemistry	3	96
Grand total, hrs.			320

Not before reaching the gymnasium is biology presented from an evolutionary point of view, that is, as this subject is generally taught in an American college. But the student of the gymnasium in Norway, is at a great advantage compared with the average American college student. The former has a fair knowledge of a large part of the natural sciences; the latter may have none whatever. The former is therefore in a position to enjoy, to assimilate and to profit by, new courses in these sciences in a far fuller measure than is the latter.

In the first year of the gymnasium, thirty hours are devoted to chemistry, and thirty hours to physiology. These subjects are common for all. The text used in chemistry is Waage's "The Chemistry of Daily Life"; the text in physiology, Knudsen's and Falk's "The Human Body, Part II." These texts are studied and reviewed. After the first year the students become more and more separated into distinct groups. The science students study physics and botany and zoology. All the students get some zoology and botany, and from a new angle. Both botany and zoology are distinct laboratory and lecture courses based on experimental work and observation. The historic-linguistic-philosophic course offers only about half as much biology as does the scientific course.

As already stated, geology is studied in connection with geography, which as a combined course is common for all students in the primary schools, middle schools and gymnasium. In the primary school, geography has primarily four aims, to wit: (1) A somewhat complete acquaintance with the fatherland; its conditions, commerce, manner of life; (2) acquaintance with the geography of Europe, especially the countries to the north and the other longer civilized countries; (3) a view of the different continents and a closer acquaintance with lands and places which are of greatest importance to the fatherland; (4) knowledge of the most important features of physical and mathematical geography. The study of geography begins in the second year of the primary school, three hours for boys, two hours for girls, weekly. This study is continued two hours weekly during the third year. After this year geography is studied one hour weekly each year till the end of primary school. Middle school carries the student about three years beyond the primary school; geography is studied two hours weekly during the entire course. In the gymnasium, the study of geography is specified into: Physical geography (first year), mathematical geography (second year) and economic geography during the third year. It is thus seen that this science holds a fair place among the other sciences as described above.

In conclusion the following points may be made: First, the *time*, when the natural sciences are introduced in school; second, *the way* in which the subject matter is presented; third, the *amount* of subject matter presented each year; fourth, that *all* students get preliminary training in botany, zoology, physiology, hygiene, physiography, chemistry and physics; fifth, that these subjects are so presented that each course serves to make the next course intelligible and most highly beneficial to the students; sixth, that the necessary preliminary studies in the sciences are given with other necessary preliminary studies; seventh, that the method of teaching and repeating the subjects through a number of years provides for a better workable knowledge in these sciences than does the method of teaching these sciences in our schools.

The gain is apparent: Everybody is familiar with the outlines of biological and physical science, just as all people of a civilized nation know how to figure in whole numbers. Those who pursue higher education master their subjects beyond doubt. Besides this, the elimination of rudimentary studies from the higher schools fosters the spirit of good will toward apparently "useless" subjects; it also is a means of economizing. It may be that the educational system of Norway, explains to a large extent why this rocky, weather-beaten, icy polar land, with only one and one half million population has won itself a "place in the sun" that may even be envied by the mighty.

H. P. KJERSKOG-AGERSBORG
DEPARTMENT OF ANATOMY,
LONG ISLAND COLLEGE HOSPITAL,
BROOKLYN, N. Y.

THE TWILIGHT OF THE FACULTY

IT would be an inquiry of curious interest to determine why the faculty is dying. It is an ancient institution in the world and old, as things go, in America. It is so deep rooted that it seems almost impossible that it should die; and yet dying it certainly is.

Perhaps before another couple of decades have passed it will have been so long dead and the whole aspect of the college world will be so different that the young instructor of that time will find it hard to imagine what a faculty meeting was like. Nor is the topic one to tempt the imagination.

The fact is things have to be done, and if a certain man or institution will not, and will not too long, some other man or institution does them. In the academic world there are vested interests in Latin and anatomy, which mean income and a future, no less vital to their possessors than are the vested interests in the commercial world in oil and coal and sugar. But in the university as outside the hour has struck.

After all, the valetudinarianism of the faculty is only a phase of the decadence of the legislative assembly. Both, as they exist in America, are eighteenth century institutions; and the order of mortality is fairly certain: first the city council, then the board of aldermen, then the college faculty, next the state legislature, and finally perhaps in a not distant future the U. S. Senate. It takes the voice of a President of the United States addressing a joint session to reach beyond the four walls now. No wonder the professor when he "rises to address the faculty" is scarcely heard above the whir of the electric fan or the thumping of the steam radiator.

Doubtless there are reasons deep in the economic conditions of the twentieth century why an institution so distinctly of the eighteenth century type should fade. But it would carry us too far to attempt to formulate them here. Nor shall we attempt an answer to the broad question why there is so little real desire for change and so much educational inertia among professors; for at least in the eastern endowed universities they are in the great majority conservatives—conservatives in education and in politics, in social questions and in spelling. This is a cause for sorrow, for surely a professor ought to be a radical, a man with new ideas, keen to try experiments, a prophet with a mission, burning to make proselytes.

Professors might, however, be conservative, and yet within a narrow sphere the faculty

might do the little that it wishes to do, and do it well, clearly, efficiently, quickly. In fact the faculty is anything but quick and efficient.

Even in this topic I shall confine myself to a single aspect, a merely physiological matter. It is this: Now-a-days all men are deaf, cerebrally deaf, deaf by education, and steadily growing deafer. The faculty can not do business by eighteenth century methods, because it has only twentieth century ears. Its members can neither hear distinctly nor speak effectively. They can only read and write; and the younger the professor the less his control of vocal language.

From the days when Homer sang and his illiterate hearers went away to repeat by hundreds of lines what they had heard but once—from those days down to the time when Clay and Webster swayed our senate, and their constituents waited for them to come home and tell them what to think, man was an animal with ears. He heard and the appropriate images flashed vividly before his mind; often clear and purposeful utterance followed; and then came apposite reply. Thus vocal debate achieved its end—or at least gave satisfaction—to an extent attained now only among the illiterate membership of a soviet.

Among us however from the day the child learns to read and write his eye and hand and the optic and manual regions of his brain receive most of the training which once entered through the ear and became kinetic in speech. When our ancestors stopped in London on their way home after destroying the Spanish Armada they crowded to hear a play of Shakespeare on a stage without scenery. There was little more to the entertainment than the lines and their mode of declamation.

At present, it is a safe guess, that 10,000 of our soldiers and sailors with a day of liberty go to the "movies" for every one who goes to hear Shakespeare, or Shaw.

In spite of this enormous change the dean still presents his business to the faculty essentially as Agamemnon might have done when he reported to the assembled chieftains that Achilles was sulking in his tent and that Ajax should take over his courses. Thereupon the faculty, who nine times out of ten have come with no idea of what is to be put before them, fall to talking, and if the matter is simple and there is virtual agreement, they may spend not much more than an hour in trying to frame a motion before they finally discover that merely tabling one section will accomplish everything desired. Then they wearily adjourn, wondering why a mere matter of phraseology which any one of them could have managed alone in fifteen minutes, should have taken them collectively an hour.

In no faculty that I know of is there an agenda paper sent to the members three days before the meeting. Committee reports are read aloud—and very badly—instead of being typed and circulated for mature consideration. Matters which could just as well lie over for formulation and report by a standing committee are introduced and voted on at a single meeting in a tangle of snap judgment, verbal floundering and waste of time. Matters purely executive, immediate but in principle unimportant, are brought in by the dean or raised by a member; while matters of policy and principle slide more and more out of the faculty's control. The legislative branch of college government attempts administration, and in return the executive legislates.

To a great extent the remedy is absolutely to stop the member, who has not yet got a clear idea even of his own opinion, from thinking out loud at his colleagues' expense. The channel of communication should be a stenographer—with a good mimeograph and a supply of postage stamps or a messenger boy. One could serve all the committees and members of a large faculty.

After a committee report has been distributed, require all members with questions, objections or motions to send them in writing to the faculty stenographer to be mimeographed and distributed before the meeting. And when the faculty meets, except under unanimous suspension of the rules, let no one offer a viva voce motion.

Let us replace those functions which we have lost—functions of the days of the orator and the quill pen—by the method in which

we are proficient, the agency of the typed word.

I have said that the faculty is dying; and—using the word "faculty" in the sense of a group of highly trained, intelligent and individually able teachers and investigators gathered in a dreary meeting—the statement is obviously true. But in another sense, it can not be true unless we despair at once of democracy and of higher education in America. Reform and progress must come in our universities, and they can come only through the action of the teaching force. Improvements of administrative methods may be made by the executive officers; but teaching in its broadest sense, the manufacturing end of our business, can be improved only by the teachers themselves, actuated by a sincere conviction of the need for improvement. It can never be effectually imposed from above.

In fact the office of dean (in the sense of executive factotum) should be abolished. There should be instead a chairman of the faculty (called dean if you will) serving for only a short term, and a registrar, a capable clerk to handle all clerical business. The chairman's function should be to encourage his colleagues each to take his share in shaping policy instead of suppressing initiative as present deans—scholars doing the hateful work of clerks—are often tempted to do.

The contrary proposal to solve the problem by the establishment of a dictatorship or an oligarchy is a counsel of despair.

Thus the teachers may recover their efficiency in the shaping of educational policy—if not by a viva voce faculty meeting, at least by a stenographer's fingers and a mimeograph, and by leaving clerical work to clerks. Thus we may be able to adopt the contradictory but expressive announcement of a change of government, "La faculté est morte! Vive la faculté!"

But beware that as with certain other forms of government just now there does not come a day when the faculty may die and not live again.

YANDELL HENDERSON

YALE UNIVERSITY

EDUCATIONAL EVENTS

PHYSICAL GEOGRAPHY AT CAMBRIDGE

AN influentially signed appeal, headed by Dr. Shipley, vice-chancellor of the University of Cambridge, is being issued for the creation and endowment of a geophysical institute at Cambridge. The letter states:

The need of a British Geodetic and Geodynamic Institute is admitted by all who are acquainted with the nature and importance of the pressing Imperial and scientific problems which depend on the great surveys. The opinion has been widely expressed that the University of Cambridge is specially competent to undertake officially, in the public interest, the scientific investigation and practical training that would be involved in such an institute. A committee has been formed for the purpose of making an appeal for the support that is necessary if this project is to be entertained.

The committee have estimated that an endowment of £50,000 would be necessary, if the proposed institute is satisfactorily to perform the double task of research and education; but it is hoped that if half of that sum were contributed by private benefactors the remainder would be forthcoming from national funds.

An essential part of the scheme would be the foundation of a university professorship of geodynamics, to be held by the director of the institute. To place this professorship in line with other chairs, recently endowed by private benefactions, and usually associated with the names of the donors or founded as memorials of national sacrifice in the Great War, a sum of £20,000 (which is included in the £50,000 mentioned above) would be required.

It is the widespread British territories which are most closely concerned in the great international surveys of the future, and indeed of the past; and the consolidation and extension of their special surveys is most necessary to the solution of the geophysical problems of the world. It would be matter for regret if from omission of the relevant scientific development at home, British official surveyors were again compelled to rely on the Prussian Geodetic Institute at Potsdam for information with regard to international work in the higher geodesy.

It is in connection with a great Imperial University, which has always been conspicuous for devotion to cognate studies, that the width and freshness of outlook are to be sought which are essen-

tial to this progressive practical science. The committee have evidence that an institute at Cambridge would be cordially welcomed by the National Survey Departments, both terrestrial and oceanographic. It is certain that all who have to do with our shipping interests, or with aerial navigation, would ultimately profit from the establishment of such an institute.

THE DAY'S WORK AND THE EMPTY SCHOOLHOUSE

ALMOST one and a half million children between the ages of 10 and 15 are listed as "farm laborers" in the 1910 census. Most of these were reported as working on the home farm; the rest "worked out." There is no report of the children below the age of ten at work in cotton, tobacco and beet fields, and on thousands of small farms.

No one has paid much attention to this condition. "The effect of farm work on the development of the child is a practically unexplored field," says the Children's Bureau of the U. S. Department of Labor. The Federal Child Labor Law which went into effect September 1, 1917, and which has since been declared unconstitutional, without doubt marked a definite step in advance in our attitude toward child labor, but even this law offered no protection for children working on farms. And only a very small proportion of the almost 2,000,000 children at work in 1910 were employed in occupations coming subsequently within the scope of the law.

Most of us think of the "farm" as an ideal place, and no one can question the wholesomeness of much in farm life. But we have learned that it is not wise to take it for granted that all country life in America makes a child happy and healthy. It must be admitted that too much farm labor interferes shockingly with the child's schooling, overtaxes his strength, and impairs his future usefulness.

A study of rural children in North Carolina completed by the Children's Bureau in 1918 brings these points home. In the lowland county investigated where cotton is the principle crop it was found that two thirds of the white and three fourths of the negro children did all kinds of chores in addition to working in the cotton fields where there is prolonged exposure to the heat of the sun. Children of all ages were in the fields: 51 were under eight years of age, and 120 were under ten.

The children of the mountain county where the chief interests are livestock and timber did chores at house and barn and also worked in the fields. Over nine tenths of those visited who were from 8 to 15 years old, and eleven who were under eight were doing field work.

Investigations carried on in 1917 and 1916 by the National Child Labor Committee disclosed conditions similar to those found by the Children's Bureau. One hundred and forty-one rural schools in Kentucky and one hundred and seventy-four in Oklahoma were studied for irregular and non-attendance. It was found that the greatest number of absences in both states was due to farm work. The other largest contributing causes were illness, housework and indifference. Farm work and housework combined nearly equal the absences from all other causes.

Does the compulsory school attendance law protect children from heavy work and long hours in the fields? There are interested and vigorous school officers who do their best to enforce the law; but even at best the period of attendance required is meager. There is always a loophole through which children may be piped to work.

In 10 states the period of attendance is below 5 months. In Alabama children must attend school for 80 days and even this short term may be reduced to sixty days; in Florida the attendance required is 80 days; in Georgia 4 months; in Mississippi 60 days, but the School Board may reduce this to 40 days; in North Carolina four months; in South Carolina four months in agricultural districts for child laborers; in Tennessee outside of cities of 5,000 scholastic population 80 days, or entire session if less than 100 days; in Utah outside of first and second class cities 20 weeks; in Virginia 16 weeks. Delaware has a required attendance of 5 months which may be changed by vote to three.

In three of the states listed above, Florida, Mississippi and South Carolina, even the

short term noted is not a state-wide requirement, as the adoption of the school attendance law is optional with the locality. A few states definitely require attendance for less than the entire session and even where attendance during the entire session is required there is often no assurance that it will be long enough to enable the child to get adequate schooling.

Fourteen states will excuse a child from school solely for "satisfactory," "sufficient," or "urgent" reasons, for "domestic necessity," or "for cause." Two of these states specify that the "urgent reason" shall be "strictly construed." In Georgia the school officers are definitely authorized to consider need for agricultural labor in excusing children in rural districts.

The Back-to-School and Stay-in-School drives of the Children's Bureau were started to arouse both parents and children to the realization that school is better than work for children until they are sixteen. It pays. As the Bureau says: "The more you learn, the more you'll earn."

SCHOOL LIBRARIANS

At the High School Librarians' Conference of the Michigan Schoolmasters' Club, at Ann Arbor, on April 4, a discussion was held as to the importance of fixing the status of the librarian in the school. From statistics compiled by Miss Poray, of Northeastern High School, Detroit, it was shown that the library, which serves all departments of the school, is not equipped in proportion to any of them, nor is the salary of the librarian at all what it should be.

The following resolutions proposed by Miss Florence Hopkins, of Central High School, Detroit, was then unanimously adopted by the conference.

In view of the rapid growth of the library, and its function in modern education, the Library Section of the Michigan Schoolmasters' Club, in session at Ann Arbor, April 4, 1919, earnestly requests the consideration, on the part of educational directors, of the points mentioned below, which have already received the sanction of other bodies as there indicated.

NATIONAL COUNCIL OF ENGLISH TEACHERS, Chicago, 1918

First: Good service from libraries is indispensable to the best educational work.

Second: The wise direction of a library requires scholarship, executive ability, tact, and other high-grade qualifications, together with special training for the effective direction of cultural reading, choice of books, and teaching of reference principles.

Third: Because much latent power is being recognized in the library, and is awaiting development, it is believed that so valuable a factor in education should be accredited a dignity worthy of the requisite qualifications; and that, in schools and educational systems, the director of the library should be recognized as a department head, who shall be enabled to undertake progressive work, be granted necessary assistants, and be compensated in status and salary equally with the supervisors of other departments.

RECENTLY ADOPTED REQUIREMENTS OF THE NORTH CENTRAL ASSOCIATION OF ACCREDITED SECONDARY SCHOOLS

For every one thousand students in daily attendance a full-time trained assistant is needed.

In large high schools of 2,000 and 3,000 daily attendance, a second assistant should be appointed, and a library clerk or page or student pages employed.

A minimum annual appropriation per student should be determined for books, pictures, magazines and newspapers. For books alone a minimum of 50 cents a student is needed. Not less than $40 a year is needed in even small high schools for magazines.

A minimum of three recitation periods per year should be given in each English course to graded instruction in the use of books and libraries.

The salary of a high-school librarian should be adequate to obtain a person with the qualifications set forth in this report. It should not be lower than that of the English teacher, but it may be necessary to pay a higher salary when there is an over-supply of English teachers and an under-supply of librarians.

In high schools having heads of departments the librarian should be made head of the library department with status equal to that of heads of other departments.

OPPORTUNITIES FOR MEN AND WOMEN IN PERSONNEL RESEARCH AND TRAINING

CARNEGIE INSTITUTE OF TECHNOLOGY announces the following openings for men and women of superior intellectual and personal qualifications who wish to study personnel problems or to fit themselves for positions of responsibility in employment management:

In the Division of Personnel and Psychology. The division specializes in the training of men and women for employment management and for educational and welfare work. It also aims to prepare for psychological work in educational systems and in commercial or industrial establishments. The following scholarships and fellowships are offered:

Scholarships available for advanced students of the division. For successful candidates, the general fee of $25 per quarter is paid. There is no tuition fee.

Fellowships—$300 to $600, from which the general fee of $25 per quarter must be paid. Open only to candidates for advanced degrees in the division.

In the Bureau of Personnel. Recently the scope of the Bureau of Salesmanship Research was enlarged to include factory and clerical workers and executives, as well as salesmen. The organization is now known as the Bureau of Personnel. Its purpose is to study methods of selection, training, development, supervision and compensation of employees.

For men and women who have studied either statistics, applied psychology, education or economics, and who are interested in business research, the Bureau of Personnel has the following openings:

Research fellows—Graduate students, who will take advanced work in Applied Psychology, Personnel Administration and related fields at Carnegie Institute of Technology, and who will devote approximately one third of their time to assigned problems in the Bureau of Personnel. Remuneration: $500, from which the general fee of $25 per quarter must be paid.

Two research assistants—Persons of maturity and training who will devote full time to research in the Bureau of Personnel. Remuneration: $1,500 to $2,000, depending upon training and experience.

Statistical assistants—Men or women who have had some statistical training and who are rapid and accurate in the tabulation of statistical data. Remuneration: $1,200 to $1,500.

In the Research Bureau for Retail Training. This bureau is directing its attention to personnel problems in the field of retailing. It prepares for positions in the employment and training departments of mercantile establishments and for teaching retailing in the public schools. It also conducts research in this field. Half of the students' time is spent in the stores. The training class is limited to 15 students in order to assure varied experience in the cooperating stores.

Opportunities offered by this Bureau:

Eight fellowships—$500, out of which the general fee of $25 per quarter must be paid. Open to mature men or women who are college graduates or who have had store experience and who wish to prepare for personnel work in stores or for teaching retailing in the public schools.

Among others, the following members of the faculty of Carnegie Institute of Technology will be associated with the work of training and research in the personnel field: Dean W. V. Bingham, Dr. G. M. Whipple, Dr. E. K. Strong, Jr., Dr. J. B. Miner, Dr. Kate Gordon, Dr. L. L. Thurstone, Miss Elizabeth Dyer, Miss Marion L. Norris and Mr. W. K. Skillen.

EDUCATIONAL NOTES AND NEWS

THE General Education Board founded by John D. Rockefeller announces an appropriation of $500,000 to the $2,000,000 fund to be raised to endow a graduate school of education for Harvard University. "Up to this time," remarks the board's announcement, "Harvard's work in the department of education has been carried on by a division of education belonging to the faculty of arts and sciences. An urgent demand has arisen for more adequate technical facilities for the training not alone of teachers and investigators but also of school officials such as superintendents, principals and supervisors. With an endowment of $2,000,000 the new school will become the most abundantly endowed institution of its kind in this country and will rank with Harvard's schools of law, medicine and engineering." The new fund will be named in honor of Dr. Charles W. Eliot, president emeritus of Harvard University.

CHARLES E. CHADSEY, recently appointed superintendent of schools of Chicago, has been

replaced through action of a newly appointed school board by Peter A. Mortenson. Mr. Chadsey, in over two months' incumbency, has not received his salary of $18,000 a year. The contest over control of Chicago's public schools has been continuous for about three years. One side has been led by Jacob M. Loeb, president of the outgoing school board, while Mayor William Hale Thompson headed the other faction. Mr. Loeb was a Thompson appointee, but became involved in difficulties with him. Mr. Chadsey was brought from Detroit as superintendent by the Loeb board to succeed Mr. Mortenson. Mr. Loeb has formally notified the new board that he considers all their actions illegal. He is expected to carry the dispute into the courts.

PROFESSOR STEPHEN S. COLVIN, of Brown University, will lecture next year in the school of education of Boston University, giving four courses in the field of educational psychology. Edwin M. Chamberlin, Ph.D. (Harvard), has been appointed assistant professor of education. Miss Mary C. Mellyn, of the board of superintendents of the city of Boston, will give a course in elementary education.

DR. FREDERICK P. KEPPEL, third assistant secretary of war, will relinquish that position, June 30, to take up the duties of director of foreign operations of the American Red Cross. Dr. Keppel resigned the deanship of Columbia College to enter the War Department soon after the United States entered the war.

DR. GEORGE E. WALK has been made dean of teachers college at Temple University, Philadelphia. Dr. Walk at the present time is assistant director of the School Board Service Division in the Bureau of Education in the Department of the Interior, Washington. Previous to the war appointment he was professor of pedagogy in New York University and director of training of the Normal School of Paterson, New Jersey. At one time he was division superintendent of schools of the Philippine Islands.

ETHELBERT C. WOODBURN, vice-president of the Northern Normal and Industrial School, Aberdeen, S. Dakota, has been elected president of the State Normal School, Spearfish, to succeed President Fayette L. Cook, who for thirty-four years has been head of the institution. President Cook was elected president emeritus and lecturer on education.

AT the University of Chicago, Mabel B. Trilling, Lydia J. Roberts and Emery T. Filbey, of the department of education; Arthur P. Scott, of the department of history, and William H. Spencer, of the school of commerce and administration have been promoted to assistant professorships.

PROFESSOR HENRY C. LANCASTER, for twelve years professor of Romance languages at Amherst College, has accepted a call to be professor of French and chairman of the department of Romance languages at Johns Hopkins University.

PROFESSOR GORDON J. LAING, of the department of Latin language and literature at the University of Chicago, was elected president of the Classical Association of the middle west and south at the annual meeting of the association in Atlanta, Georgia.

GEORGE C. CHASE, since 1894 president of Bates College, died at Lewiston, Maine, on May 27.

HENRY PITT WARREN, for many years head master at Albany Academy and author of textbooks, died on May 27.

MARKING the valedictory of President Benj. Ide Wheeler to students and friends of the University of California, the University Commencement Day exercises on Wednesday, June 4, it is expected that alumni from all sections of the state will attend in greater numbers than ever before.

DR. W. FRANKLIN JONES, retiring head of the department of education of the University of South Dakota, delivered the commencement address to the 191 graduates of the Northern Normal and Industrial School on May 19; his subject was "A Functioning Education."

SURGEON-GENERAL IRELAND has been authorized to continue, during the present "emergency," the preparation and application of psychological tests to recruits, that men of low mentality may be barred from the army.

DR. THOMAS R. GARTH, of the department of education of the Normal College at Canyon, Texas, has been giving his mental fatigue test to students in the United States Indian School at Chilocco, Oklahoma, with a view to studying racial differences in fatigue. So far the tests have been given to whites, negroes and Indians.

BENJAMIN GLASSBERG, a teacher of history in the commercial high school, Brooklyn, who was suspended in January, has been dismissed from the school service by the Board of Education. Arthur S. Somers, former president of the board, who presided at the trial, said that he and his associates had found Mr. Glassberg guilty of the charges, which were that he had told his pupils Bolshevism was not so bad as it had been painted, that the government prevented the truth about affairs of Russia from becoming known, and that no school teacher was allowed to tell the truth about conditions in that country. All of the members of the board were present at the meeting and the vote for dismissal was unanimous. The Teacher's Union, of which Mr. Glassberg is a member, and which through its counsel, Mr. Gilbert E. Roe, defended his case, was represented at the board meeting by Henry R. Linville, its president and others. The decision will be appealed to the state commissioner of education.

THE Newark, N. J., school teachers have organized a teachers' union to be affiliated with the American Federation of Teachers, which is associated with the American Federation of Labor. The result of a referendum which had been taken among 1,400 teachers in Newark schools was as follows: Seven hundred and ninety-three desired unionizing, 423 opposed the step and 284 were doubtful. Edwin E. MacCready, of East Side High School, was appointed temporary chairman of the union, and Miss Mary Nichols, of the South Side High School, secretary and treasurer. Forty-eight teachers signed the charter of the union.

FOLLOWING the example of teachers in Newark, teachers of Jersey City have organized a union. They met at Odd Fellows' Hall, in Bergen Square, and signed an application to the American Federation of Teachers, which is affiliated with the American Federation of Labor, for a union charter. The officers are: Chairman, Miss Adele Cox, of Public School No. 36, and secretary, Miss Anna B. Hayne, of School No. 14. The movement has been under way for several weeks. It began in April with addresses before the Jersey City Teachers' Association by Henry F. Hilfers, the New Jersey secretary of the American Federation of Labor; Lawrence V. Lampson, organizer of the American Federation of Teachers, and Kenneth M. Forbes, head of the Central Labor Union of Jersey City.

THE Rev. Edward P. Tivnan, S.J., president of the Fordham University, announces that the medical school of the university will not resume its classes in September. This action was determined upon by the trustees because of the inability of the university to continue to meet the deficit the medical school annually shows. Under the classification of the American Medical Association, the Fordham School is rated as a Class A institution, which means that it is on a par with the best medical schools in the United States.

PRESIDENT HARRY PRATT JUDSON, of the University of Chicago, at a recent meeting of the board of trustees presented a plan for the organization of an Oriental Institute in the university as outlined in a general sketch by Professor James Henry Breasted, chairman of the department of Oriental languages and literatures. The plan contemplates an expenditure of approximately $10,000 a year for the first five years, and Mr. John D. Rockefeller, Jr., son of the founder of the university, has offered to supply the necessary funds for the carrying out of the project. The recent political changes in the near east which have followed the collapse of Turkey make accessible for discovery and exploration a vast domain.

AT a meeting held on Friday, May 16, the faculty of the college of the University of Pennsylvania passed the resolutions, which were concurred in by the faculties of the graduate school and of the school of education. The resolutions were inspired by the recent

action of the provost and the board of trustees in advancing the salaries of the teaching force:

The teachers of the college, of the graduate school and of the school of education of the University of Pennsylvania, both professors and other instructors, desire to record by this minute, their sincere appreciation of the recent action of the board of trustees of the university in the general and pro-rata advancement in salaries which they have so equitably provided.

The teachers of the college, of the graduate school and of the school of education desire further to record their cordial recognition of the efforts of Dr. Edgar F. Smith, the provost of the university, in their behalf, who in this, as in so many other ways, has always shown himself solicitous to advance alike the general welfare of the university and the specific interests of its teachers.

It is the wish of those approving these resolutions that they be spread on the minutes of the faculties of the college; the graduate school and the school of education, and given such further publicity as their importance demands.

President Charles F. Thwing, of Western Reserve University, has compiled statistics, which were published in *The New York Times* for May 11, regarding the deaths among college men in the war. His list totals 4,920, of whom 1,643 died of wounds, 1,792 died of disease, and 641 of other causes, particulars concerning the remaining number not being available. Harvard heads the list with 297 deaths; Yale is next with 186; and Cornell is third with 158. Other colleges with heavy losses are Columbia, 128; Princeton, 120; Kansas, 103; California, 93; Syracuse, 84; Illinois, 83; Pittsburgh, 60; Minnesota, 60; Stanford, 59; Virginia, 54; Ohio, 52; Northwestern, 48; Oregon Agricultural, 48.

The Ramsay Memorial Committee has offered to the University of London a sum of not less than £25,000 towards the foundation of a laboratory of chemical engineering at University College.

The senior class of Baylor University, Waco, Texas, has bought and will give to the university as a memorial a lifesize picture, full length, of Robert Browning, painted by his son.

The University of Cincinnati announces that there will be forty-five courses in the evening session of 1919–1920. A number of new courses will be offered, among them being The plant in modern life, Geography of the world's natural resources, Æsthetics, World politics, Neighborhood organization, Modern charities, and theory and methods of Americanization. The last course is offered jointly by instructors in the departments of political and social science, philosophy and psychology. The evening session aims to offer courses in natural science and social science in order to meet the needs of students, who although unable to undertake a regular course, wish to secure training in the method and viewpoint of the sciences.

The organization work for the interstate $20,000 research for the best methods of character education in public schools is nearing completion. The chairmen of research have been appointed in thirty-five states. They include eight state superintendents, one assistant state superintendent, twelve university and two college professors, seven superintendents of schools and one assistant superintendent, one normal school president and two professors, and one private school principal. The research year has been set for October 1, 1919, to October 1, 1920. One hundred copies of a volume containing 600 pages of extracts from educational literature on character education are being printed at the expense of the donor of the $20,000 award for distribution and loaning to the collaborators.

Substantial progress has been reported at a recent meeting at Nottingham, England, regarding a scheme for securing a charter of incorporation for Nottingham University College and placing it upon the footing of a fully constituted university with degree-conferring powers. The Nottingham corporation has agreed to hand over to the new governing body the existing buildings, with the Central Free Library, and to contribute £15,000 annually towards the upkeep; Notts County Education Authority supplying £5,000 annually. Derbyshire, Lincolnshire, Leicestershire and North-

hamptonshire authorities are cooperating in the scheme, in support of which a committee is to be appointed to present the case to the president of the Board of Education.

LONDON University has decided to give degrees in commerce, and courses leading to them will be opened by the London School of Economics probably next September. This school has already for some years given courses likely to be of special interest to men and women engaged in commerce in such subjects as cost, accounting, scientific factory management, and foreign trade and exchanges, but it is now intended to give much more detailed attention to business needs. The scheme has not yet been drafted, but it is believed students will be required in the first part of the course to ground themselves thoroughly in general economics, and will then take up special branches, such as banking, shipping, railroad transportation, and so on. The college authorities are now consulting with leaders in commercial life on the methods to be adopted to make the courses as practical as possible. It is expected that they will attract not only students looking forward to new special careers, but also men in consular and other government services.

NATURE states that a report on the work done in London educational institutions during the past three and a half years in the manufacture of munitions and training of munition workers was before the Education Committee of the London County Council on December 12. It appears from a statement by the Education Committee that in June, 1915, the Council agreed to place its resources at the disposal of the Ministry of Munitions and the Metropolitan Munitions Committee. Two lines of action were adopted: (1) The manufacture of such essential munitions as could be made with the staff and machines available in technical institutions, and (2) the training of workers for munition factories. In connection with the manufacture of munitions the main efforts of the organization have been directed to the manufacture of precision gauges. About 83,000 guages have been delivered and passed by the National Physical Laboratory; in addition, sixty-five orders for miscellaneous types of accessories have been completed. With regard to the second item, more than 12,000 students have been in training, of whom about 9,000 have completed their courses satisfactorily and been placed in employment. The staff engaged on this work on December 1 last numbered in all 482 persons, 44 of whom belonged to technical institutions, 193 had been transferred from their normal posts in various kinds of schools, and 245 were temporary employees. Machinery and equipment to the amount of about £17,000 have been purchased for the manufacture and remain the property of the Council. Certain funds will be available for the reconstruction and equipment of workshops in technical institutions from the manufacturing side. The total value of the work carried out for the manufacture of munitions and the training of munition workers has been of the order of £300,000.

TEN thousand disabled soldiers are now being given some sort of educational work in 43 different hospitals. Thousands more are on their way and will receive the same help. In order to handle properly the educational work in the new hospitals with the increased numbers of patients a material increase in the educational personnel is necessary. By a recent order, transfers may be made from any branch of the service to the educational service in the medical department. Acting upon this, officers and enlisted men with special qualifications are being transferred from their present assignments where their services are no longer needed, to the Division of Reconstruction. They are to become instructors or supervisors of the various lines of school work. Instructors and supervisors are still needed for almost all lines of technical work; but the need is likely to be met in the near future.

PROVISIONS are made in a recent British army order for the payment of extra-duty pay to education officers and educational instruc-

tors who have not received, or do not receive promotion on appointment; for increases in the army education establishment; and for the continuation in the service of education officers and instructors for the period of demobilization. Education officers on regimental rates of pay will receive extra-duty pay at the rate of 2s. per diem if holding the rank of captain (including acting rank), or higher rank, prior to their appointment, subject to the ordinary rules for additional pay. The appointment is authorized of an education officer to each cavalry and infantry brigade, with the rank of captain (if not already holding it) while so employed, and with extra-duty pay. In place of the 10 officer instructors and 15 non-commissioned officer instructors authorized to be attached to each education officer, instructors are now authorized on the scale of four officers and 12 non-commissioned officers per 1,000 men.

An American college in Athens is proposed. Nicholas G. Kyriakides, president of the Central Committee of the Unredeemed Greeks, and other Greek representatives lately in America discussed the matter with educators here and expressed the desire of the Greek people to have an American college established there which would create for the Greeks the same sort of atmosphere as Robert College has created in Constantinople. While no committee has been formed and no definite plans made, interest in the idea is such that as soon as conditions in Europe become more settled definite steps may be taken.

Boston University has a net registration of 4,256 for the present year, an increase of 463 over the previous year. The increases are chiefly in the college of liberal arts, the college of business administration, the school of law and the graduate school. Eight years ago the total registration in the university was 1,347. During this period there has been an increase of over 200 per cent. in the attendance. The school of education, which was organized last October, has a registration of 170, including the department of religious education.

The Northwestern University Law School announces that the following changes of requirements for admission and graduation, postponed because of war conditions, will become effective September 1, 1919: For admission, a three year course of college studies (instead of one year) will be required; except that persons not so qualified may, on certain conditions, enter as candidates for the degree of LL.B., but not more than ten in any one year. College credit for army and navy service given by the college from which the student comes will be accepted. For the degree of LL.B. or J.D. a course of legal studies amounting to four years (or 36 months) of time and eighty-eight semester hours of credit (instead of three years and seventy semester hours) will be required; except that holders of an A.B. or B.S. degree may complete the course in three years (or 27 months) by obtaining seventy-five semester hours of credit.

An American Army "University" has been opened in Beaune, southeast of Paris, in which fifteen thousand soldiers have enrolled for a three months' course. The faculty of 500 members, chiefly drawn from the American Expeditionary Force, is headed by Colonel Ira I. Reeves, formerly president of Norwich University in Vermont. The study halls and dormitories were an American hospital during the war. A farm of 600 acres is used as the main agricultural college, while former workshops of the hospital supply quarters are being utilized by classes in engineering. The university has opened a branch at Bellevue, near Versailles, for nearly 1,000 students of art and architecture. The American Army University is one of the four features of the educational system introduced for the benefit of the expeditionary force. The other features are post schools in all organizations for elementary work; division educational headquarters in all armies, corps and divisions for vocational training and general education of high-school grade and details of officers and soldiers as students at French and British universities for post-graduate college work. Post schools have been established in units of five hundred or more men. There are generally forty such

schools in each division, which will make more than 1,000 in the American Expeditionary Force.

DISCUSSION AND CORRESPONDENCE

THE LITERARY FORM OF THE DOCTORAL THESIS IN SCIENCE

IN recent years there has been put in force in some American universities a requirement that theses for the doctorate in scientific subjects shall be examined in respect of their "form" *as distinct from* their content. The committee which adjudges the stylistic merits of these contributions always includes at least one member of the department of English. His word is the final one regarding this particular phase of the process of launching a new doctor of philosophy. I conclude, on the basis of information picked up from my friends of the humanistics, that this arrangement for the execution of an undoubtedly wise rule is based upon two considerations. These are: first, the well-known lack of culture in general among scientific men, together with the widely recognized inability of such persons to write or speak the English language intelligibly; and, second, the conspicuous literary ability of all professors of English, which is particularly well shown by the proportionate number and excellence of the contributions of their writing which are accepted by our leading literary journals. It will be seen from the first consideration that it would be quite impossible for men of science to exercise a nice discrimination respecting the literary qualities of theses presented to them. From the second consideration it is evident that under the existing arrangement critical judgment of really professional character is brought into play.

Some time ago I had a little experience with the "form" rule. Since this experience contained elements calculated to make some contribution to the joy of living I feel that I ought not to keep it to myself any longer. The facts were these: a student, who is now a member of the staff of my laboratory, presented a thesis for the doctorate to the graduate committee of one of the largest and best universities in the country. This student was somewhat older and distinctly more experienced in scientific research than the average candidate for the degree, having already published several papers in leading professional journals in this country and abroad. The thesis was an extensive and unusually meritorious piece of work, which has attracted wide and favorable attention for its thoroughness and originality since its publication in the world's leading journal devoted to the field of science in which it fell. It was accepted by the journal referred to, and printed, in precisely the form that it had when presented to the graduate committee.

After the presentation of the thesis it transpired in due course that the English department was requested to criticize it as to "form." Presently the professor of English whose duty it was to attend to such matters reported to the dean of the graduate school in the manner set forth below. His report in its original form lies before me as I write. I have reproduced it here *literatim et punctuatim*, suppressing only names.

Dean ——— — ————

Graduate Department

My Dear Prof ————

The thesis of ——— — ———— entitled "A Quantative .....," is generally satisfactorey in form. It can, however, be improved in the details of composition, and should be carefully revised before publication, awkward constructions tending to obscurity are rather frequent, as are changes and mixtures of tense and the punctuation is especially weak and frequently gives rise to ambiguity

Signed

——— ————

Any comment on this extraordinary document would tend only to detract from the brilliance of what is, taken in all its implications, a nearly perfect gem. I sign this communication pseudonymously only because I do not wish to divert attention from the main point of interest by the injection of a personality factor.

B. I. OLOG

QUOTATIONS

A BRITISH MINISTRY OF HEALTH AND THE BOARD OF EDUCATION

The recent appointment of Sir George Newman, the chief medical officer of the Board of Education, to be principal medical officer of the local government board, a new and transitory office, was a significant forerunner of the Ministry of Health Bill, which is now being considered by the House of Commons. Sir George Newman has not vacated his office at the Board of Education, and the imminent dissolution of the Local Government Board, which is indicated in the Bill, coupled with the power taken by the Bill to transfer to the new Ministry the medical powers and duties of the Board of Education, seem to indicate that the man who has created the school medical service will be entrusted with the largest duties under the new ministry as principal medical officer of the board of health. The country could ask nothing better. Sir George Newman as chief medical officer of the Board of Education has not only set to work an admirable and growingly effective system of medical inspection and treatment of young persons and children; he has also grasped the roots of the problem of national health by laying down the principles, first, that the health of the children can not be secured while the homes of the children are unhealthy; and, secondly, that the health of the people depends on prevention, not on cure. The apostle of the doctrine of preventive medicine is of all others the person to deal with the health of the people as a whole. It seems certain that, pending the transfer of the medical powers and duties of the Board of Education to the new board, Sir George Newman will remain in medical control at the Board of Education. This is most desirable, since under the Education Act, 1918, a vast number of young persons will come under the medical control of the board and there are questions of policy to be determined of the first moment to the new board of health.

We do not imagine that the new Bill will be seriously attacked, and so broadly are its lines drawn that there will be little scope, except in one respect referred to later, for amendment in committee. The object of the Bill is to create a Ministry of Health and a Board of Health which in England, Wales and Scotland will secure the coordination of measures conducive to the health of the people, including the prevention and cure of disease, the treatment of physical and mental defects, the collection and preparation of relevant information and statistics, and, perhaps above all, the training of persons engaged in health services. The process of coordination is indicated in the Bill. The powers and duties of the Local Government Board, of the insurance Commissioners, of the Board of Education with respect to mothers and to children under school age, the powers of the Privy Council under the Midwives Acts, and certain powers as to the preservation of infant life under the Children Act are to be taken over. Further important powers and duties can be transferred to the new Ministry from the Board of Education and the Ministry of Pensions; the powers under the Lunacy and Mental Deficiency Acts now exercised by the appropriate Secretary of State, and all other powers of any Department which appear to relate to matters affecting or incidental to the health of the people, can also be transferred. Thus if the Bill becomes law the Ministry will control or will have in reserve the power to control all matters that in any way affect the physical or mental health of the people. The proposal is one of the most far-reaching character, and if carried out in the spirit in which it is conceived should in a few years make this the healthiest country in the world. That perhaps is the only doubt that will affect the judgment of critics. Will an Act of this character be carried out with the self-sacrifice and the vigor which are essential to its success? The answer really is that what the Board of Education and the local education authorities could do can be carried out equally effectively by the new board and the consultative councils which will be formed under the Bill if it becomes law. The Bill as it stands will bring to a focus the scattered powers that are now operating in so many directions, sometimes hampering each other.

Social reformers who are also medical men are convinced that it is only by this unity of command in matters of health that the difficulties can be overcome.

In these pages we are for the most part concerned with the new proposals in so far as they tend to secure a higher standard of educational efficiency. It is from this point of view that we are concerned to see one fundamental amendment added to the Bill. We wish to see the consultative councils made into committees of the local authorities. This is not inconsistent with the cooption on to the committee of persons of both sexes possessing practical experience. Such an amendment might be urged from many points of view. For instance, it would greatly strengthen the local government system of this country which, revived in 1888, represents an almost immemorial tradition. The creation of education committees has proved the salvation of English education. The creation of health committees of the local authorities might well prove equally effective in the matter of health. Moreover, there would be a great convenience if the education and health committees become offshoots of the same local authority. It must be remembered that the medical and health work of the local education authorities is of primary importance in securing the health of the people. We believe that education and health would equally benefit if the new consultative health councils became an organic part of the local government system. The close touch between the Board of Education and the Board of Health in London would be reflected in the equally close touch of the two committees of the local authorities in all parts of the country.—*The Times Educational Supplement.*

BOOKS AND LITERATURE

The Colleges in War Time and After. By PARKE R. KOLBE.

It is too early to write definitely the history of any phase of the war. A historical treatment of the part played by the colleges and universities of the United States in preparing for and winning the great struggle must be slowly prepared. There are, however, many aspects of the colleges' contribution which can be better treated while the exalted mood of the war is still upon us than at any later time. It is with these that President Kolbe's book is primarily concerned.

The reaction of the colleges to the war was indeed material rather for drama than for history. It is highly desirable that something of the excitement, something of the confusion, and above all something of the high seriousness which prevailed in the college world during the first months of our participation in the war should be preserved. The atmosphere of this period could only be caught and held by a participant.

On the foundation of a brief analysis of the collegiate situation before the war Dr. Kolbe gives a vivid and interesting account of the effects of the declaration of war upon college activities. He describes the efforts of the colleges to place their tremendous training resources at the disposal of the government. He reviews the series of governmental attempts to establish appropriate agencies for utilizing the colleges. He analyzes the purposes and the achievements of the War Department's National Army Training Detachments and the Students' Army Training Corps. He summarizes the contribution made by science to the various war activities.

Turning to the colleges themselves he gives the first comprehensive account that has yet been made of the effect of the war on various academic conditions and practises, on enrollments, on curricula, on finances, on the purposes and aims of liberal and technical institutions.

Finally he states the major educational problems which the war has thrust upon the higher educational system of the country and suggests the lines of development which are likely to be followed.

The reader is at first amazed that so comprehensive and thoughtful a presentation could have been produced while the war was actually going on. Indeed, if one may judge by internal evidence, the book was completed just about as the armistice was signed. In spite

of this fact it gives the impression of maturity of judgment and completeness of record.

The quality of the book is no doubt in large measure due to Dr. Kolbe's unusual opportunities during the spring of 1918. He had behind him the immediate vital experiences of a university president in a war year. In the light of these he interprets the disturbing but important pageant which passed before his eyes as a volunteer member of the staff of the Bureau of Education. It is fortunate indeed that this account could have been written at exactly this epoch by an observer who could without effort estimate events from a dual point of view.

Samuel P. Capen

WAR TIME COURSES IN EMPLOYMENT MANAGEMENT

1. Creation and administration of courses

A significant educational by-product of the war in American education has been the creation of many special courses designed to train employment managers. Employment management is perhaps the newest profession in our modern social life. Six years ago there were probably not more than a score of men who were performing the duties now attached to the employment department. The discovery of the extent and costs of labor turnover by Grieves, Alexander and Boyd Fisher demonstrated to many employers the necessity of establishing departments which would enable them to hold men longer in their plant. Many such departments were created between 1914 and 1917 and groups of employment managers were organized in Boston, Detroit, Rochester, Philadelphia and other cities.

The war increased the necessity for the scientific handling of labor, the drain of 4,000,000 men into the military and naval force and the pressure for production caused by the war, threw a burden upon the employers to increase the efficiency per man in order to make up for the decrease in numbers. In order to do this effectively it was soon seen that a functionalized department must be created to take charge of the questions of employment and general labor conditions inside the plants. This need was emphasized by Captain Boyd Fisher, who was first attached to the Ordnance Department. Captain Fisher with Professor Edward D. Jones, of the University of Michigan, conducted an active campaign to impress upon the contractors for the Ordnance Department the necessity for a more scientific handling of their labor problems through the establishment of Employment Departments managed by men conversant with the problem.

Captain Fisher and Professor Jones were transferred from the Ordnance Department to the War Industries Board, since it was seen that the problem was one which concerned industry as a whole and not alone those plants having contracts with the Ordnance Department. Many employers consequently sought to establish such departments, but the great obstacle was the difficulty of finding a sufficient number of men who were acquainted with the problems which the employment manager must face and who were thoroughly experienced in employment technique.

It was necessary therefore to train employment managers just as it was necessary to train the various other specialists which the war need occasioned. A short unit course of six weeks in length was accordingly started at the University of Rochester late in March, 1917, under the direction of Professor Meyer Jacobstein. This course proved to be such a success that since then courses have been established in the following cities:

Courses were also established under the direction of the Y. W. C. A. in New York and at Bryn Mawr, where Dr. S. M. Kingsbury and Miss Annie Benzanson were in charge of instruction. The two latter courses, were more influenced by the British welfare movement than were those directly under the supervision of the War Industries Board.

Admittance to the courses was free and some of them have been repeated several times. The Rochester course, for instance has been given four different times.

The War Industries Board has in general required that, in order for students to be eligible to enter these courses, except in rare cases, they must have had previous industrial

City	Institutions Cooperating	Directors
Rochester, N. Y.	University of Rochester.	Professor Meyer Jacobstein.
Boston, Mass.	Harvard,	Professor Roy W. Kelly and
	Massachusetts Institute of Technology and Boston University.	Professor Ralph B. Wilson.
New York City	Columbia University.	Mr. Ordway Tead and Professor H. C. Metcalf.
	Bureau of Municipal Research.	Mr. Ordway Tead.
	New School for Social Science.	Mr. Robert Bruere.
Pittsburgh, Pa.	Carnegie Institute of Technology. Pittsburgh University.	Professor H. C. Metcalf.
Chicago, Ill.	Chicago School of Civics and Philanthropy.	Miss Mollie Ray Carroll.
	Northwestern University.	Mr. Gilbert L. Campbell.
Cleveland, O.	Case School of Applied Science.	Miss Mildred Chadsey.
Seattle, Wash.	University of Washington.	Dr. Boris Emmett and Miss Miriam Bisby.
Portland, Ore.	Reed College.	Professor H. B. Hastings.
San Francisco, Cal.	University of California.	Professor Ira B. Cross. Dr. R. Sigsbee.

experience. The students were either (*a*) those sent directly by individual companies, who promised to take them into their employment department upon the completion of the course, or (*b*) those who took the course upon their own initiative and whom the employment management section tried to place with concerns upon the satisfactory completion of the course.

By the end of November, 1918, over 360 students had been graduated from these courses; nearly all of whom had been placed.

2. CONTENT OF THE COURSES

The content of the course varied considerably from college to college. The employment management section, however, superintended the curriculum and exercised supervision over the work given, as well as gathering course materials and furnishing lecturers to the schools. The work of the students was divided into two parts:

(*a*) Classroom work, consisting of lectures and seminars.

(*b*) Practical experience with individual employment agencies whereby the students could gain actual knowledge of how well managed employment departments were conducted.

The following outline of the topics considered in the lectures, which, while not uniform for all courses, indicates the field covered.[1]

[1] I am indebted to Captain Boyd Fisher for copies of the syllabi prepared by him from which the following outline has been drawn.

COURSE I. EMPLOYMENT PRACTISE

1. The necessity for a functionalized employment department.
2. The requisites of a successful employment manager.
3. The functions of an employment department.
4. Relations of employment department with management, with men and with foremen.
5. The hiring of labor—
   - (*a*) Source of labor.
   - (*b*) Occupational analysis.
   - (*c*) The technique of hiring.
6. Assignment of employees to the job.
7. Transfers and promotions.
8. Methods of payment.
9. Hours of work which will produce greatest efficiency.
10. Shop discipline.
11. Separations.
12. Education and training.
13. Women in industry.
14. Workmen's compensation and safety work.
15. Welfare and personnel work.
16. Employment records.
17. Absenteeism and how to combat it.
18. Labor turnover—
    - (*a*) Definition.
    - (*b*) Methods of tabulating.
    - (*c*) Cost of labor turnover.
    - (*d*) Remedies for labor turnover.

COURSE II. LABOR ECONOMICS

1. The industrial revolution and its effects.
2. The characteristics of the present industrial system.
3. Special evils of present industrial system, such as—sweating, woman and child labor, poverty, unemployment, etc.

4. Types of labor organizations and the theory of collective bargaining.
5. Employers associations.
6. Scientific management.
7. The supply and distribution of workers.

COURSE III. ELEMENTS OF STATISTICS

1. Law of large numbers.
2. Collection of statistics.
3. Tabulation.
4. Types of averages.
5. Factory statistics.
6. Employment statistics.

COURSE IV. INDUSTRIAL MANAGEMENT

1. Large scale production as evidenced in industry to day—
   (*a*) Extent.
   (*b*) Advantages.
   (*c*) Disadvantages.
2. Forms of business organization.
3. Markets.
4. Plant location.
5. Plant finance.
6. Advertising.
7. Scientific management.
8. Executive control.

At each course a number of lectures were given by others than those instructing on full time. This had all the advantages and disadvantages which outside lectures generally entail.

3. THE FUTURE

The employment management section of the War Industries Board has been taken over by the Federal Board for Vocational Education which has secured an appropriation from the President's emergency fund to continue the courses in employment management at least temporarily. In the future, tuition will not be free at these schools but the employment management section will furnish a flying squadron of three or more experts who will travel to those schools which have been approved to conduct lectures, and to superintend field work on different aspects of the problem. The section will also continue to serve as a placement bureau for the graduates and as a follow-up agency.

The courses given have undoubtedly been very valuable in training in a short period of time a large number of men to meet the vastly increased employment problems which the war occasioned. They undoubtedly increased the efficiency of many men who had had industrial but not educational experience and they popularized the existing approved practises of employment management. A subject so complex, however, could not be covered adequately in so short a time as six weeks and the following changes seem necessary if the work is to continue to be of permanent educational value.

1. The course should be increased from six weeks to a year in length. Many employers stated that the men were not trained sufficiently, in the time allotted, to manage an employment department. This was undoubtedly true in many cases and could not help being so in view of the shortness of the course. If employment management is really to become a profession, however, it must have preparatory training in some way comparable to that now given for the other professions, such as law and medicine.

2. The field of employment management must be broadened so that it will include not only employment practise and the general industrial background, but be of such a nature that it will prepare men to be directors of Industrial Relations within plants and not merely managers of employment departments. A thorough study of the labor problem therefore becomes an absolute necessity.

3. The use of the seminar method should be extended and the formal lectures reduced to a minimum. Where this method has been used, it has amply justified itself by results. This in turn of course necessitates smaller classes and individual instruction.

4. Some system must be devised to recruit more competent students. This may be done by making it a graduate school for which only college graduates can enter or by entering into arrangements with plants whereby employers will send promising men to the schools upon fellowships created by them and for whom they will guarantee positions when they graduate.

5. The development of adequate field experience for the students whereby they may have practise work in some well conducted employment department. This work should be educative and not merely routine-like in nature.

Several large universities are planning to intro-

duce courses in the fields of employment management and the next ten years should see the work upon a firm foundation.

The field of employment management, however, not only needs to have the existing principles and methods popularized (which was what was largely done by the war-time courses on employment management) but it needs fresh additions to its general content.

The following lines appear to be those upon which research in the future would be most profitable.

(*a*) Job specification and analysis. The most notable examples of this have been those conducted by the Committee on Classification and Personnel of the War Department; by the Industrial Relations Division of the Emergency Fleet Corporation, and by the United States Bureau of Labor Statistics.

(*b*) A continuation of the practical system of trade tests so well begun by the Trade Test Section of the Committee on Classification and Personnel of the War Department.

(*c*) The determination of the causes and remedies for absenteeism and withheld effort.

(*d*) The working out of a more democratic machinery inside the plant which will allow the workers to exercise greater control of their conditions of work.

A SHORT BIBLIOGRAPHY ON EMPLOYMENT MANAGEMENT

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The magazine *Industrial Management* has been devoting considerable space to employment problems for the last two years.

An admirable bibliography upon all phases of employment management has been prepared by Professor Edward D. Jones, of the employment management section, Federal Board for Vocational Education, and may be obtained from him.

PAUL H. DOUGLAS

EMERGENCY FLEET CORPORATION,
PHILADELPHIA, PA.

EDUCATIONAL RESEARCH AND STATISTICS

AN EDUCATIONAL CROSS SECTION

DURING the period January 17 to March 21, 1919, there were enrolled in the Educational Department, U. S. General Hospital No 28, Fort Sheridan, Ill., 727 men. Practically all of these were "overseas" men. They were convalescent but were able to give some time to study. Of this group 61 were enrolled for "beginning" English—elementary reading and writing. Some of this group might not be termed illiterate in the usual sense of the term, but none of them were able to read a simple news item, a sale bill, a military order or a magazine article, in English. To these the printed page in English held little or no meaning. Some were able to write their names, but none were able to write a letter in English.

True, several had received considerable training in their native tongue as witness the following tabulation.

Years in School	No. of Men	Years in School	No. of Men
0	11	5	5
¼	1	6	3
1	4	7	8
2	5	8	1
3	7	H. S.	1
4	6	Indefinite (Probably very little)	5

Here we find that eleven men have never attended school at all, one three months, five unknown (probably for only five or six

months) while but one had had a high school education, the latter having attended high school in Greece.

The age of these men range from eighteen to thirty-six years with the average at little more than twenty-five.

Their nativity is as follows:

Italy	10
Greece	6
Sweden	2
Lithuania	1
Poland	4
Russia	11
Norway	1
Denmark	2
Croatia	1
United States	23

It is rather significant that so large a proportion are American-born and only one is colored. Here we have a group of young men, twenty-three in number, none older than thirty-six and all eighteen or more years of age, entering a class in "beginning reading," a class where the typical second reader "is as far as they go." It is this group of native-born Americans who make up an additional challenge for a more thoroughgoing educational system than prevails at present. Here we have a sampling from the "flower of American manhood" an examination of which yields a result which at best does not stimulate our pride. These are the choice men of the country, the men who remained after physical and mental examination had weeded out all but the best.

These sixty-one men are distributed among the vocations as follows:

Farmer	17
Laborer	10
Coal miner	7
Machine shop	3
Painter	3
Electrician	2
Carpenter	2
Cowboy	2
Miscellaneous	15

The miscellaneous group includes one each of the following: barber, wood finisher, merchant, bartender, iron worker, clerk, moulder, steward, foreman, sheet metal worker, factory worker, tailor, car expert, crane man and "student" (in institute for mentally deficient boys).

So far as could be determined by survey and conference, these men for the most part were successful in their callings, several receiving $100 or more per month. They are successful in industry but their inability to read and write English no doubt prevents them from realizing the fullest possibilities in industry and without question prevents their reaching the height of social worth that society is entitled to expect.

One of the encouraging things about the whole matter is the manifest desire of these men to master reading and writing. They want to learn. They find themselves in a hospital, with much leisure time and with educational facilities readily at hand. It is natural that they should avail themselves of these opportunities. They are largely "in the same boat" and a wholesome class spirit prevails. Of this entire group only one is listed as mentally defective. The psychological rating (by interview) is as follows: two superior, forty-one average, fifteen inferior and three not recorded.

The vocations and salaries of the eleven men who have never been in school are as follows: Laborers, $15 to $22 per week; coal miners, $100 per month; farmers, indefinite; cowboys, $85 per month; painter, $37.50 per week, and electricians, $4.50 and $5.00 per day. five of these are foreign-born, and six are American-born.

To summarize, we have here a group of 727 choice "hand-picked" young citizens. Sixty-one, or over eight per cent. of them, were unable to read and write. Of those who had never attended school over forty-four per cent. were born and reared in America. For some reason or other our educational system seems to have failed to function adequately. This "cross-section" study of a known group, which gives only facts, is offered that it may throw light on some of the factors in educational problems.

Clyde B. Moore